

Patent Claims:

1. Piston-type accumulator, in particular low-pressure accumulator in a slip-controlled motor vehicle brake system, with an axially movable piston in a housing bore, with a seal interposed between the piston and the housing bore and being fixed inside the housing bore, and with a cover for closing the housing bore, c h a r a c t e r i z e d in that the housing bore (5), at its end closed by the cover (6), is designed as a stepped bore enlarged in diameter in which the seal (4) is fixed.
2. Piston-type accumulator as claimed in claim 1, c h a r a c t e r i z e d in that a first and a second bore step (1, 2) are arranged inside the stepped bore, and the diameter of the stepped bore in the area of the first bore step (1) corresponds to the inside diameter of the housing bore (5), while the inside diameter of the stepped bore in the area of the second bore step (2) is adapted to the outside diameter of the seal (4).
3. Piston-type accumulator as claimed in claim 1 or 2, c h a r a c t e r i z e d in that the stepped bore at the outside edge of the housing bore (5) is limited by a third bore step (3) which is formed by the plastic deformation of the housing material which fixes the cover (6) at the stepped bore.

4.   Piston-type accumulator as claimed in claim 2,  
c h a r a c t e r i z e d   in that a retaining part  
     (7) is provided between the second and the third  
     bore step (2, 3) in order to fix the seal (4) at the  
     first bore step (1).
  
5.   Piston-type accumulator as claimed in claim 4,  
c h a r a c t e r i z e d   in that the retaining  
     part (7) bears directly against the second bore step  
     (2), and in that the seal (4) is covered by the  
     retaining part (7) at least in part in the direction  
     of the peripheral piston surface.
  
6.   Piston-type accumulator as claimed in claim 4,  
c h a r a c t e r i z e d   in that the retaining  
     part (7) is configured as an annular washer which is  
     pressed by a cover (6) that closes the housing bore  
     (5) against the second bore step (2) and against the  
     seal (4).
  
7.   Piston-type accumulator as claimed in any one of  
     claims 4 to 6,  
c h a r a c t e r i z e d   in that the outside  
     diameter of the retaining part (7) is adapted to the  
     diameter of the stepped bore, and the inside  
     diameter of the retaining part (7) is adapted to the  
     outside diameter of a piston (8) guided in the  
     housing bore (5).

8.   Piston-type accumulator as claimed in claim 4,  
c h a r a c t e r i z e d   in that the retaining  
part (7) is formed directly by the edge (9) of a  
cover (6) that closes the housing bore (5).
  
9.   Piston-type accumulator as claimed in claim 8,  
c h a r a c t e r i z e d   in that the edge (9) of  
the essentially bowl-shaped cover (6) is bent off at  
right angles in an outward direction in order to  
provide the contour of an annular washer and is  
covered outside by the plastically deformed housing  
material.
  
10.  Piston-type accumulator as claimed in any one of the  
preceding claims,  
c h a r a c t e r i z e d   in that the cover (6) is  
configured as a bowl that is preferably deepdrawn,  
the inside diameter of the bowl in the area of the  
edge (9) having a minimum clearance with regard to  
the outside diameter of the piston (8) in order to  
fix the seal (4).
  
11.  Piston-type accumulator as claimed in claim 10,  
c h a r a c t e r i z e d   in that in the working  
stroke area of the piston (8), the bowl has at least  
one portion (13) in the direction of the bowl  
bottom, the inside diameter of which is expanded  
like a funnel in the direction of the bowl bottom in  
order to allow a generously tolerated passage of the  
piston (8).